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### Concomitant Vascular Compressive Syndromes: Median Arcuate Ligament Syndrome With Nutcracker Syndrome◇

Sina Iranmanesh, Brittny W. Howell, John J. Ricotta. Washington Hospital Center, Washington, DC

**Objectives:** This article describes the presentation and management of two vascular compressive syndromes occurring within the same patient. Median arcuate ligament syndrome (MALS) presents as chronic mesenteric ischemia secondary to compression of the celiac trunk by the median arcuate ligament. Treatment by surgical decompression can provide relief. Nutcracker syndrome presents as vague flank or pelvic pain along with hematuria. It occurs secondary to compression of the left renal vein (LRV) by the superior mesenteric artery (SMA). Transposition of the LRV has been described to manage symptoms. Rarely do these two compressive syndromes occur simultaneously.

**Methods:** A 33-year-old man presented with chronic abdominal/flank pain, nausea/vomiting, and hematuria. Physical examination, biochemical analysis, and endoscopic and fluoroscopic evaluations did not reveal an etiology. Contrasted computed tomography revealed extrinsic compression of the celiac trunk consistent with MALS. In addition, the presence of LRV compression (with poststenotic dilatation) by the SMA was consistent with nutcracker syndrome.

**Results:** The patient underwent simultaneous open release of the MAL along with LRV transposition. His postoperative course was unremarkable. The patient reported a marked improvement in his abdominal symptoms.

**Conclusions:** Vascular compressive syndromes, such as MAL and nutcracker syndromes, occur infrequently. Surgical intervention can provide symptomatic relief in properly selected patients.

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### Transatrial Caval Filters Optimize Outcomes of Pulmonary Embolectomy◇

Christine Chung, Rajesh Malik, Daniel Han, Sharif Ellozy, Windsor Ting, Michael Marin, Peter Faries, Ramachandra Reddy. Mount Sinai Hospital, New York, NY

**Objectives:** Pulmonary embolectomy can be lifesaving for massive and submassive pulmonary embolisms (PEs). Recurrent PE after surgery has devastating consequences. Inferior vena caval (IVC) filters can be placed intraoperatively to minimize the interval during which the patient may be vulnerable to re-embolization. We report our experience with routine transatrial filter placement during pulmonary embolectomy.

**Methods:** Between April 2009 and September 2013, 18 consecutive patients (11 women) with a mean age of 59.3 years (range, 28-84 years) underwent pulmonary embolectomy for massive and submassive PE (8 and 10 patients, respectively). Six patients (33%) presented with cardiogenic shock or arrest. The most common PE risk factors were deep vein thrombosis (13 patients [72%]), immobility (7 patients [39%]), and malignancy (6 patients [33%]). Embolectomy was performed on cardiopulmonary bypass with systemic hypothermia. During the rewarming period, a purse-string suture was placed in the right atrial appendage, and fluoroscopic guidance was used to pass a filter through the atrium into the IVC.

**Results:** Mean length of stay was 14 days (range, 6-44 days). Mean follow-up was 22 months (range, 1-56 months). Technical success was 100%. There were no perioperative deaths or recurrent PEs in our patients. Four patients required transfusions, and respiratory failure developed in two patients. One late death was caused by metastatic malignancy.

**Conclusions:** Patients with massive and submassive PE may undergo pulmonary embolectomy with minimal risk for recurrent PE and death with routine intraoperative IVC filter placement. Further investigation is needed to better define the role of transatrial IVC filters in the surgical management of PE.

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### Venous Stasis Ulcers due to Congenital Agenesis of the IVC◇

John Phair, Eric Trestman, Ratna Medicherla, Jennifer Stableford. Montefiore Medical Center, Bronx, NY

**Objectives:** We report a case of a 16-year-old male patient with infrarenal IVC agenesis and venous collateralization, symptomatic with venous stasis ulceration.

**Methods:** An extensive literature search was performed using MEDLINE and PubMed databases using search terms: congenital, agenesis, vena cava, infrarenal inferior vena cava, magnetic resonance venogram, venous stasis ulcers. Articles regarding case reports of agenesis of the vena cava were found, with no mention of venous stasis ulceration as the primary symptomatology.

**Results:** The patient initially presented with venous stasis dermatitis and ulceration in the medial malleolar region bilaterally. Duplex imaging revealed absence of the infrarenal IVC and iliofemoral venous system. Magnetic resonance venography was then performed, which confirmed the above findings (Fig), along with revealing extensive lumbar and pelvic collateralization and the presence of a large retroaortic left renal vein. This patient's condition has been successfully managed conservatively with compression therapy and wound care.

**Conclusions:** This case is an example of a rare congenital malformation of the infrarenal vena cava and represents the only reported case with presenting symptoms of venous stasis ulceration. This is likely an example of an under diagnosed condition due to its nonpathognomonic symptoms and broad range of differential diagnoses. More commonly, this condition presents in the setting of thromboembolism as reported in available case reports currently in literature. Conservative compression therapy appears to be the treatment of choice for this particular symptom in this rare malformation.

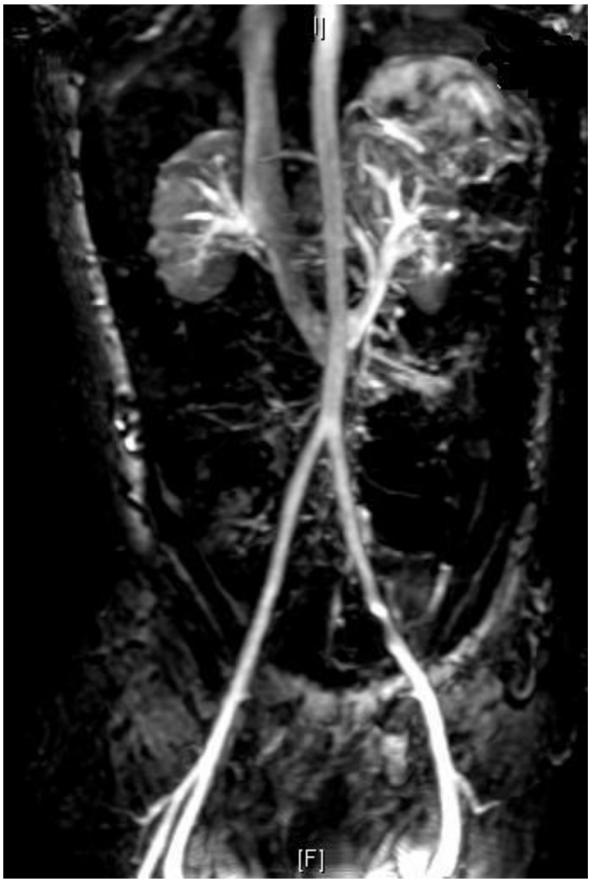


**Fig.** Magnetic resonance angiography of pelvic vasculature, demonstrating the absence of the inferior vena cava (IVC).

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